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10/575,616	04/13/2006	Enea Menegatti	2503-1211	1346

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EXAMINER	
LAU, JONATHAN S	

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4173	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,616	MENEGATTI ET AL.	
	Examiner	Art Unit	
	Jonathan S. Lau	4173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☒ Claim(s) *12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1 page*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This application is the national stage entry of PCT/EP04/11236, filed 08 Oct 2004; and claims benefit of foreign priority document ITALY MI2003A002019m filed 17 Oct 2003. Claims 1-13 are pending in the current application. Claims 1-13 are examined on the merits herein.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities:

The arrangement of the specification recited above, as provided in 37 CFR 1.77(b), indicates section (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S) should follow the section (g) BRIEF SUMMARY OF THE INVENTION. The instant specification lacks a section corresponding to section (h). For instance, the description of figure 1 is found on page 9, lines 9-11. Further, it is unclear if the section titled DESCRIPTION OF THE INVENTION corresponds to the above recited section (g) or (i).

As recited above, each of the section headings should appear in upper case, without underlining or bold type. In the instant specification, the section headings appear to be in bold type.

Appropriate correction is required.

Claim Objections

Claim 12 is objected to because of the following informalities: Claim 12 as amended recites "Method of medicinal products with chemoprotective activity, which comprises adding an effective amount of the microemulsion according to claim 1 to an acceptable carrier." The claim has been interpreted as a method of **preparing** medicinal products based on the active step recited in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 7-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al. (US Patent 5,744,155, issued 28 Apr 1998, cited in PTO-892) in view of Riley, Jr. (US Patent 5,055,303, issued 08 Oct 1991, cited in PTO-892).

Friedman et al. discloses an oil-in-water emulsion of submicron particles, or microemulsion, with a hydrophobic core of a fat or oil surrounded by a surfactant wherein the emulsion further comprises a drug and a mucoadhesive polymer hyaluronic acid. See abstract, lines 1, 4, 6-8 and 10-11. The drug envisioned for use in the invention includes the retinoid retinoic acid (column 6, line 22) and the surfactant is a

phopholipid such as lecithin (column 3, line 60-62), addressing instant claims 1 and 2. Friedman et al. discloses the fat or wax of the hydrophobic phase is envisioned to be an aliphatic ester of hydrophobic acids, such as isopropyl myristate (a C14 fatty acid esterified with a C3 alchol), including C8-C22 fatty acids and C2-C6 short chain alcohols, obviating isopropyl palmitate disclosed in instant claim 4, a C16 fatty acid esterified with a C3 alcohol. Friedman et al. discloses the polymer hyaluronic acid may be present as free acids or salts (column 7, lines 16-17) with a preferred molecular weight of at least 50, 300, or 1,000 kDa (column 7, lines 54-56), and envisions salification of the mucoadhesive polymer using NaOH to give rise to the sodium salt (column 10, lines 59-60), obviating the limitation disclosed in instant claim 8 "salified with organic inorganic bases with a molecular weight of 50-730 KDa or a high molecular weight (750-1230 KDa)" and the limitation disclosed in instant claim 7, wherein the hyaluronic acid is present as the sodium salt. The emulsion further contains pharmaceutical excipients such as EDTA, preservatives, and antioxidants (column 8, lines 21-22 and 24-25), addressing instant claims 9 and 11. Friedman et al. discloses the use of tocopherol acetate, an α-tocopherol, in the hydrophobic phase (column 4, line 67), addressing part of the limitation of claim 10. Friedman et al. discloses preparation of the emulsion followed by addition of an aqueous solution, or acceptable carrier, containing the hyaluronic acid and excipients such as EDTA, preservatives, and antioxidants, addressing instant claims 12 and 13. Friedman et al. cites Riley Jr., US Patent 5,055,303, as prior art disclosing bioadherent emulsions of the water-in-oil type (column 2, lines 35-40).

Friedman et al. does not specifically disclose a water-in-oil type microemulsion. Friedman et al. does not specifically disclose the oil phase consisting of isopropyl palmitate.

Riley, Jr. teaches water-in-oil type emulsions, wherein the internal hydrophobic phase is greater than that of the external aqueous phase (column 1, lines 13-14) is prior art, which discloses high internal phase ratio emulsions where the internal phase is greater than 70% (column 1, lines 16-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to practice the invention of Friedman et al. with a water-in-oil type microemulsion. Friedman et al. cites Riley Jr., US Patent 5,055,303, as prior art disclosing bioadherent emulsions of the water-in-oil type (column 2, lines 35-40). Friedman et al. discloses emulsions with bioadherent properties. One of ordinary skill in the art at the time of the invention would have been motivated to use the prior art technique of a bioadherent emulsion of the water-in-oil type to improve the emulsions with bioadherent properties of Friedman et al.

It would have been obvious to one of ordinary skill in the art at the time of the invention to practice the invention of Friedman et al. wherein the oil phase consists of isopropyl palmitate. Friedman et al. discloses the fat or wax of the hydrophobic phase is envisioned to be an aliphatic ester of hydrophobic acids, such as isopropyl myristate (a C14 fatty acid esterified with a C3 alchol), including C8-C22 fatty acids and C2-C6 short chain alcohols. Isopropyl palmitate, disclosed in instant claim 4, is a C16 fatty acid esterified with a C3 alcohol. It would have been obvious to one of ordinary skill in the

art at the time of the invention to substitute a functional equivalent aliphatic ester of hydrophobic acids, isopropyl palmitate, for isopropyl myristate.

Claim 8 recites a product-by-process, "containing a derivative of hyaluronic acid selected from: salified with organic inorganic bases with a molecular weight of 50-730 KDa or a high molecular weight (750-1230 KDa)…" "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.). See MPEP 2113. Accordingly, the product-by-process claim has been examined in view of the end product, the salified hyaluronic acid with a molecular weight of 50-730 KDa or a high molecular weight (750-1230 KDa).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al. (US Patent 5,744,155, issued 28 Apr 1998, cited in PTO-892) in view of Riley, Jr. (US Patent 5,055,303, issued 08 Oct 1991, cited in PTO-892) as applied to claims 1-4, 7-9 and 11-13 above, and further in view of Smolinske (Handbook of Food, Drug, and Cosmetic Excipients, 1992, p 251, cited in PTO-892).

Friedman et al. in view of Riley, Jr. obviates the water-in-oil type microemulsion. The emulsion contains pharmaceutical excipients such as EDTA, preservatives, and antioxidants (Friedman et al. column 8, lines 21-22 and 24-25). Friedman et al. discloses the use of tocopherol acetate, an α-tocopherol, in the hydrophobic phase (column 4, line 67), addressing part of the limitation of claim 10.

Friedman et al. in view of Riley, Jr. does not specifically disclose the emulsion containing parabens.

Smolinske teaches that parabens are a widely used drug and cosmetic preservatives (page 251, lines 8-9 and 11).

It would have been obvious to one of ordinary skill in the art at the time of the invention to practice the invention of Friedman et al. in view of Riley, Jr. containing parabens as preservatives. Smolinske teaches that parabens are widely used preservatives. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine known prior art element to obtain predictable results. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to practice the invention of Friedman et al. in view of Riley, Jr. wherein the disclosed preservatives are parabens as taught by Smolinske.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al. (US Patent 5,744,155, issued 28 Apr 1998, cited in PTO-892) in view of Riley, Jr. (US Patent 5,055,303, issued 08 Oct 1991, cited in PTO-892) as applied to claims 1-4, 7-9 and 11-13 above, and further in view of Bonda (US Patent 6,551,605, issued 22 Apr 2003, cited in PTO-892).

Friedman et al. in view of Riley, Jr. obviates the water-in-oil type microemulsion containing the retinoid retinoic acid.

Friedman et al. in view of Riley, Jr. does not specifically disclose the use of the retinoid isoretinoin, tazarotene, or fenterinide.

Bonda teaches retinoids incorporated into an emulsion comprising a water-in-oil type emulsions, wherein the internal hydrophobic phase is greater than that of the external aqueous phase, incorporating retinoids, specifically isoretinoin, tazarotene, and fenretinide. See Bonda, column 6, lines 21-23 and 26, and exemplified in the composition of example 1, columns 5 and 6, lines 39-57.

It would have been obvious to one of ordinary skill in the art at the time of the invention to practice the water-in-oil type microemulsion containing the retinoid retinoic acid of Friedman et al. in view of Riley, Jr. using the retinoids isoretinoin, tazarotene, and fenretinide taught by Bonda. Bonda teaches retinoids incorporated into a water-in-oil type emulsion. See Bonda example 1, columns 5 and 6, lines 39-57. It would have been simple substitution of functional equivalent retinoids known in the prior art to practice the invention of Friedman et al. in view of Riley, Jr. using the retinoid fenretinide

in place of the retinoid retinoic acid to obtain predictable results. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teaching of Bonda to practice the water-in-oil type microemulsion of Friedman et al. in view of Riley, Jr. containing the retinoid fenretinide.

Conclusion

No claim is found to be allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan S. Lau whose telephone number is 571-270-3531. The examiner can normally be reached on Monday - Thursday, 9 am - 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors, Ardin Marschel can be reached on 571-272-0718 or Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSL

/Cecilia Tsang/
Supervisory Patent Examiner, Art Unit 4173